System 270THX® THX Select Certified Home Theater Loudspeaker System



Instruction Manual

Covers Models 271 LR, 273m C, and 274t SR

Atlantic Technology®

INNOVATIVE HOME THEATER

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System 270 THX

High Performance THX Select Certified Home Theater Loudspeaker System

Thank you for choosing Atlantic Technology home theater products. Your new speaker components are precision crafted to give you years of enjoyable, trouble free service. This manual covers the System 270 THX speakers for home theater. It will show you how to incorporate System 270 THX components into your present setup, as well as how to assemble a complete system. The Model 272 PBM Subwoofer is covered in detail in a separate manual. System 270 THX has been optimized for use with all surround sound formats including Dolby Surround®, Dolby Pro-Logic®, Dolby Digital 5.1® and DTS® digital surround.

NOTE: *Although it may seem like asking for directions while driving, please take a few moments to read all of this booklet. It has many helpful tips and ideas on properly setting up and using your system. We promise that if you take the time to read and follow these tips you'll get better system performance. … Honest.*

What's THX?

THX is a series of standards and technologies developed by Lucasfilm Ltd. (of Star Wars fame) intended to ensure that what you hear and see on your home system, as closely as possible, matches what the director heard and saw during the final production of the film. THX is intended to enhance every type of viewing and listening experience including the latest discrete multi-channel digital formats. *Please note however that THX is not a separate surround format.*

THX Select standards are based upon a room size of 2000 cubic feet (L x W x H). THX Ultra standards are based upon a room size of 3000 cubic feet. This does not mean these components must be used in rooms this exact size. The room sizes simply provide a frame of reference, as they indicate that these systems must deliver a minimum level of performance in these specified room sizes. System 270 THX is THX Select certified.

Components

Model 271 LR Front Channel Speaker

The **Model 271 LR Front Channel Speakers** are high performance, two-way systems **intended for use only with a quality subwoofer**, such as the Atlantic Technology Model 272 PBM THX. Each speaker contains two 5-1/4" IMG (injection-molded graphite) woofers, and a 1" Ferrofluid™ cooled silk dome tweeter with a powerful neodymium magnet structure. These components are mounted in an acoustically inert MDF (Medium Density Fiberboard) cabinet. The 271 LR speakers are magnetically shielded so they may be placed right next to a TV set without concern.

Model 273m C Center Channel Speaker

It is vital to the accurate reproduction of a multi-channel soundtrack that the three front speakers have the same sonic signature. Therefore, the **Model 273m C Center Channel Speaker** contains the same two 5-1/4" IMG woofers and 1" fluid cooled silk dome tweeter as the 271 LR speakers. The 273m C is designed for use only with a dedicated subwoofer like the 272 PBM THX. The 273m C includes a high frequency level control that allows it to be placed directly above or below the TV screen (which impacts the speaker's sound) and still provide accurate reproduction. Since up to 85% of dialogue and 65% of special effects are reproduced through the center channel speaker, it's important that its sound be accurate and timbre-matched to the other speakers in the system. The rear-mounted High Frequency control incorporated into the 273m C allows for this matching. Additionally, there are switches to compensate for the speaker's proximity to a TV screen and to adjust the midrange "presence."

The 273m C center speaker is intended to be placed in a horizontal position, as opposed to the vertical positioning intended for the 271 LR. It too is magnetically shielded so it may be placed directly adjacent to your TV set with no adverse effects.

Model 274t SR Surround Speaker

The **Model 274t SR Dipole Surround Speaker** is intended for use in multi-channel audio/video sound systems **only as a dedicated surround channel speaker**. Each speaker has two 4-1/2" IMG woofers and two broad dispersion 3/4" silk dome tweeters. The drivers are angled and internally connected in such a way to produce ambience with minimal localization. The 274t SR's wide bandwidth and unique construction makes it especially suitable for today's advanced Dolby Digital and DTS applications.

Important Note: *There is a dedicated LEFT and RIGHT model 274t SR. This is clearly marked on the back of each speaker. Should you hang them on the wall, using the supplied keyhole adapters, you must tum the speakers over (hanging them "upside down") and swap them side to side for proper operation.*

Please note that the vast majority of the time, surround speakers are called upon to reproduce all the "environmental" sounds that are used as cues to tell you "where you are". We are firmly convinced that Dipoles are undoubtedly the best and most practical way to create such an involving and believable soundfield at home.

Note: *Although the speakers in the Atlantic Technology System 270 THX are acoustically and cosmetically matched to each other for best results, they may also be used with other Atlantic Technology components and a wide variety of speakers from other manufacturers with satisfying results.*

Connecting Your System

We recommend that you connect your System 270 THX with high quality dual conductor stranded wire of 18 gauge or larger, for lengths up to 15 feet. (Remember, the lower the gauge number, the larger the wire). Use 16 gauge dual conductor or larger for longer runs of wire. Contact your audio/video dealer for specific cable recommendations and further information for special circumstances.

Warning: *To prevent risk of electrical shock or damage to your equipment, always switch off the amplifier or receiver when making connections to the speaker. We recommend that you check your local electrical codes to make sure that you're not using an improper connector.*

You can connect your System 270THX speakers by using a variety of audio connectors such as banana plugs (single or double—North America only), pin connectors, spade lugs, etc., or you can:

1. Remove 1/2" of insulation from each wire end.
2. Twist the stranded wire together, keeping the two ends separate.
3. Place the appropriate wire through the appropriate postholes in the connectors. These holes are revealed when you loosen the connector capscrew.
4. Screw down the capscrew tightly, but be careful not to overtighten.
5. Check the capscrews 24 hours after hookup and occasionally after that, as they can loosen over time.

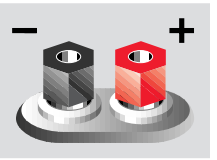


Figure 1: *Gold plated 5-way binding posts. Accepts up to 10 gauge bare wire.*

It's important to observe polarity while making speaker connections: red (+) terminals on the amplifier to red (+) on the speaker, black (-) on the amplifier to black (-) on the speaker. Look carefully at the wires you are using and note that one of conductors of each pair will be identified by color, printing on the outer jacket, ridges on the outer jacket, or a thread intertwined with the wire strands. By convention, the marked wire is connected to the red (+) terminal.

Whether your are connecting a complete System 270THX, or adding a single speaker component to your present system, the wiring should look like the diagram in Figure 2.

Warning: *Before turning on the amplifier, be certain that no stray wire strands are touching across any terminals as this might damage your amplifier.*

Finally, check the polarity of your front speakers by listening to some music. If the sound seems hollow, unusually spread out, or has weak bass, recheck your connections for proper polarity and reverse any out of phase connections, if necessary. Usually one speaker wired out of phase is the culprit.

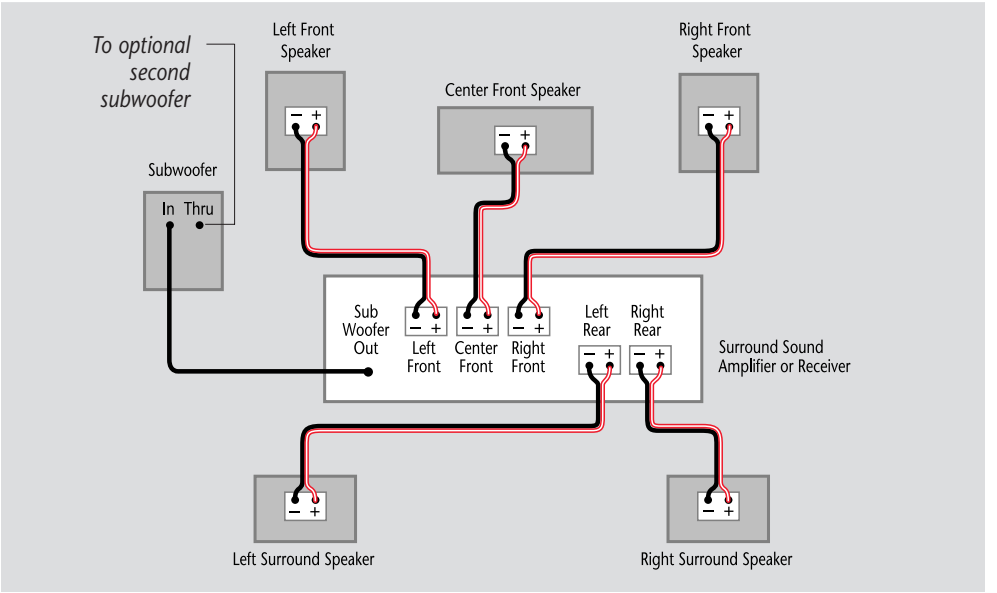


Figure 2: *Typical wiring diagram for speakers in a home theater.*

Placement and Operation

Speaker/room interactions have a huge impact on the sound of the system. Moving the speakers just a little bit can make a dramatic difference in what you hear. The compact design of System 270 THX provides you with maximum placement flexibility while creating a large, seamless, acoustically accurate soundfield for your home theater or music system. The best placement of the speakers will vary from room to room. Use the following placement guidelines and Figure 3 as a starting point. But also feel free to experiment. In fact, it may be beneficial to hook up the speakers with some extra wire and to simply drape the wire across the floor before installing the speakers permanently. This will allow you the opportunity to move the speakers around easily so you can find the best sonic and visual locations.

Home Theater

Remember that the primary goal of a good home theater is not to make you believe that you are in a movie theater. It's to make you believe you are in the scene taking place on the screen. For a home theater system, place your Model 271 LR speakers on either side of the television. The three front channel speakers (271 LRs and 273m C) are magnetically shielded so they will not interfere with your television picture. The left and right front speakers should be far enough apart that you get a good stereo image, but not so far apart that the sound seems to come directly from the speakers, distracting you from the picture. When using a center

channel speaker, a wider separation of the left and right front speakers is usually possible. You may chose to "toe" the LR speakers in, aiming them at the prime listening position. This can be particularly useful if the front LR speakers are fairly far apart.

The Model 273m C should be placed directly above or below your television. It is important that the speaker is centered on the screen, not off to the side. The pivoting design of the 273m C allows you to tilt it up or down so that it points most directly at the listening position.

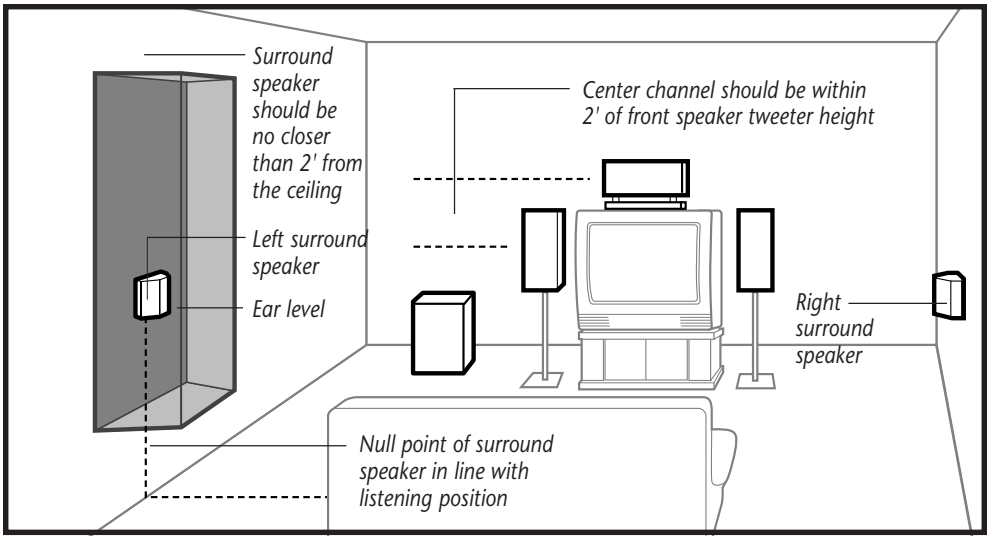


Figure 3: *Typical arrangement for speakers in a home theater. For best results, place the surround speakers within the shaded areas. Note that the surround speakers are marked **Left** and **Right**. It is important that the speakers be placed correctly for proper imaging.*

Operation of the 273m C Rear Panel Controls

The Hi Frequency Level control will give you more or less high frequency output from the speaker, working similarly to a treble tone control. It allows you to compensate for overly bright soundtracks or "punch up" a dull soundtrack. Turning this control clockwise increases the high frequency level; turning it counterclockwise reduces the high frequency level. The Hi Frequency Level control also will allow you to adjust the overall sonic balance of the 273m C to more closely match the LR speakers even though the 273m C is placed directly above or below the TV screen. It may be best to use the test tone built into your receiver to adjust the overall sound of the 273m C to match the LRs once the speakers are placed in their proper locations. When left in the "THX Reference" position you'll get the most neutral frequency response from the speaker.



Figure 4: *Multi-Stage Timbre Control on rear panel of 273m C.*

The Boundary Compensation control can be used to adjust the lower midrange to compensate for sound coloration caused by the speaker's close proximity to the TV screen. The Midrange Presence control adjusts the upper midrange output of the speaker. It can be used to compensate for the tendency of movie soundtracks to sound "bright" or forward.

Note: *Some surround sound decoders and receivers offer a choice of "Normal" or "Wide-band" modes for the center channel. The Model 273m C is designed to be used in the Normal mode. Additionally, some discrete digital home theater systems provide Bass Management, which lets you select between "Small" and "Large" speakers throughout the system. Since the 270 THX system has been designed to work only with a subwoofer, please set all the speaker positions to Small.*

Surround Effects

The 274t SR's size and shape allows greater flexibility in placement than most surround loudspeakers. Due to their Dipole design's spatial characteristics, it's possible to place the speakers almost anywhere within the rear third of the room. However, the best location is straight out to the sides of, or slightly behind the primary listening area, approximately 1-2 feet above seated ear level to 2 feet down from the ceiling.

Note: *The surround speakers are intended to re-create the ambient sounds taking place in the movie scene. Throughout most of a movie or TV program, you may not be directly aware of the surround speakers presence. So it's OK if you aren't aware of hearing the surround speakers directly. For a more believable surround experience, please avoid the trap of turning the surrounds up so that you're aware of them all the time. Remember, the signal they receive is 99% subtle sounds that should make you believe you're in the action up on the screen.*

The orientation of the 274t SRs is important to the proper generation of an involving and diffuse surround effect. To insure proper orientation, make sure that the RIGHT speaker is on the right side wall of the room, and the LEFT speaker is on the left side wall of the room, as you are seated facing the screen. The 274t SRs are marked RIGHT and LEFT on the back and have an arrow that should point towards the front of the room. Should you hang them on the wall, using the supplied keyhole adapters, you must turn the speakers over (hanging them "upside down") and swap them side to side for proper orientation.

System Set Up

When setting up a complete home theater we strongly recommend that you use a Sound Pressure Level (SPL) meter. Radio Shack® has a good one that's very affordably priced (approximately $40). To use this meter, turn on your system, put the Processor/Receiver in the Test Mode and set its main volume control to 0dB. Sit in the prime listening position, set the SPL meter to the 70dB scale, Slow Response, and C Weighting. Now, holding the meter pointed up and in front of you, let the system cycle its test tone from speaker to speaker and set every speaker to 75dB using the individual level settings in the Processor/Receiver. As tempting as it may be to set the subwoofer and/or surround speakers higher than 75dB, try them properly set and see if you can acclimate to it. Try watching several different movies and keep in mind that the goal is to have a system that sounds like you're actually "in the movie".

Music Only System (Model 271 LR with subwoofer only)

If you are setting up a music only system, begin with these general guidelines:

- The distance between your speakers should be approximately one-half their distance from your favorite listening position.
- If you point the front of the speakers directly towards the prime listening position, you will achieve the most precise imaging. You will also receive the maximum amount of direct radiated high frequency energy. If you have a "bright" or "hard" sounding room, aiming the speakers straight out into the room (or just aiming them partially towards you) may make for a more natural and pleasing sonic balance.
- The distance from each speaker to its three closest room surfaces should be different.
- In most rooms, you should not place your speakers in the corners.

The goal is to reproduce accurate musical timbre and natural sound. Additionally, a well set-up stereo pair of speakers will create excellent imaging and a cohesive representation of the soundstage. Placement in the room and your listening position have an enormous impact on the ultimate sound you will achieve from your system. The most important thing is to be creative! Try placing your speakers along the long wall instead of the short one. Toe the speakers in or point them straight ahead. Pull them away from the wall or push them closer. Don't be timid. You'll find that moving your speakers, even a few inches, can dramatically change and possibly improve their sound.

Mounting

The 271 LR and the 274t SR speakers can be mounted in a variety of ways:

On speaker stands Optionally available Atlantic Technology speaker stands (model 176ST, available in black or white) provide an ideal height (29" above the floor) for most rooms. Other speaker stands from may be used, but should be of approximately the same height (29" to the base of the speaker). When using Atlantic stands the 1/4" x 20 threaded insert in the back of the cabinet accepts the supplied bolts included in the stand hardware package. This makes for an exceptionally secure and solid stand mounting system.

On the wall To wall mount your speakers, use the attached metal key-hole bracketson the back of the speakers. Remember, the SR speakers should be swapped side to side to have the drivers aimed correctly.

Be sure to use a strong screw to drive into the wall, one whose head and shaft will fit within the keyhole opening and slot. Also be sure to drive the screw well into a stud or use a mounting device (such as a molly-bolt) that is capable of holding the weight of the speaker. Never simply drive a nail or screw into sheet rock or other wall materials. Always follow the above guidelines for safe speaker mounting.

Note: *There are several rubber pads supplied with your speakers. They are to be used as feet when the speakers sit on a shelf, or on stands. When you use the keyhole mounts, place these pads on the lower rear of the enclosure (remember, the enclosures are going to be mounted upside down), using a double thickness (one pad on top of another). This will keep the speaker level and stop it from vibrating on the wall.*

For greater flexibility you can use pivoting ball-and-socket wall brackets of suitable weight rating (e.g., Omnimount 50 Series, Vogel, etc.) usually available from your local audio/video retailer. There are also compact adjustable metal shelf style mounts from companies like Pivotelli™ that are convenient and unobtrusive. Please contact your A/V specialist for information on these as well.

On a bookshelf Adhesive rubber feet are included to protect the speaker bottom and the shelf or cabinet.

In the wall (274t SR only) An optional Atlantic Technology in-wall mounting kit is available which includes all the necessary hardware and trim to install a pair of 274t SR speakers recessed partially in a standard wall. Please contact your local Atlantic Technology dealer for further information.

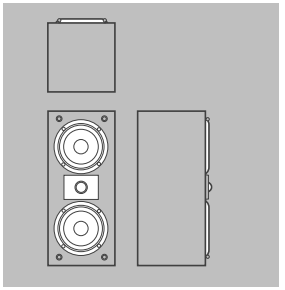
Listening Levels and Power Handling–IMPORTANT!

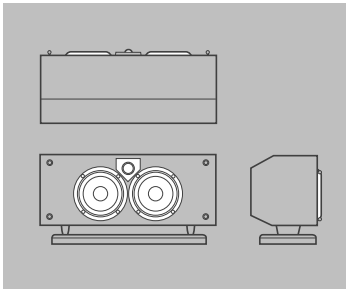
The power recommendation for these speaker components assumes that you will not operate your amplifier/receiver in a way that produces distortion. Even rugged speakers like System 270 THX components can be damaged by a moderately powered system driven beyond its intended capacity. The harsh amplifier "clipping" that occurs in this situation will eventually cause damage to the speaker system. This type of damage is cumulative and can build up over time as the amplifier is driven into overload again and again. Such damage is easily identifiable through examination of the damaged speaker's voice coil and is not covered by the warranty. The System 270 THX will play very loudly when provided with enough clean power to do so. Again, consult your dealer or Atlantic Technology for additional information.

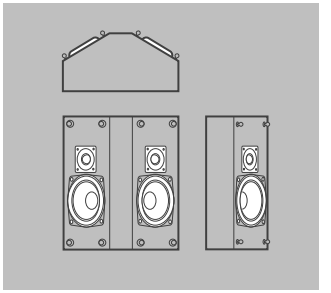
Care and Feeding of Your Speakers

Clean your speaker cabinets using a soft cloth moistened with a mild, non-abrasive glass cleaner being careful not to wet the edges of the cabinet. Also, be careful not to get any cleaning fluids on the driver cones or domes. It may be best to dampen the cloth with the cleaner and then wipe the speakers. After carefully removing the grilles from the speakers by pulling them forward, gently, clean them with a quick pass from a vacuum cleaner with a brush attachment. This should remove any dust accumulation. Re-attach them by lining up the grille pegs and holes and pushing them firmly but carefully. Avoid placing your speakers in direct sunlight or near a source of heat that may, over time, damage the finish.

System 270 THX Specifications







Model	***271 LR***	***273m C***	***274t SR***
Type	Sealed-box, 2-way	Sealed-box, 2-way, multi-stage timbre control	Sealed-box, frequency-enhanced surround speaker
Drivers	(2) 5-1/4" ICMG woofers (1) 1" silk dome tweeter	(2) 5-1/4" ICMG woofers (1) 1" silk dome tweeter	(2) 4-1/2" ICMG woofers (2) 3/4" silk dome tweeters
Frequency Response (±3dB)	80Hz – 20kHz	80Hz – 20kHz	80Hz – 20kHz
Nominal Impedance	8Ω	8Ω	8Ω
Crossover Frequency	2.5kHz	2.5kHz	3kHz
Sensitivity	90dB	90dB	90dB
Recommended Amplifier Power	10 – 150WRMS	10 – 150WRMS	10 – 150WRMS
Magnetic Shielding	Yes	Yes	No
Size (W x H x D)	6.85 x 14.4 x 7.9in 174 x 366 x 200mm	17.75 x 8.11 x 7.9in with base 450 x 206 x 200mm with base	9.0 x 11.8 x 7.3in 230 x 300 x 185mm
Weight (ea., unpacked)	13lbs; 5.9kg	15lbs; 6.81kg with base	10.5lbs; 4.76kg

Specifications are those in effect at the time of printing. Atlantic Technology reserves the right to change specifications or appearance at any time without notice. THX is a registered trademark of Lucasfilm Ltd., Dolby Digital, AC-3, 5.1, Dolby Stereo and Dolby Pro Logic are trademarks of Dolby Laboratories Licensing Corporation. DTS is a registered trademark of DTS Technology.

For Future Reference

Record your speaker(s) serial number(s) and date of purchase here:

Model Number	Serial Number	Date of Purchase
Model Number	Serial Number	Date of Purchase
Model Number	Serial Number	Date of Purchase

The serial number is found on the back of the speaker near the connecting terminals.

Important: Save Your Boxes! *If you can do so, save the cartons, packing pieces, and plastic bags that came with your speakers. They will be useful in case you move or have to ship your loudspeakers for any reason. In any case, save all packing materials until you are certain that the systems have suffered no damage in shipment. If you find such damage, either visible or internal, contact your dealer immediately for the proper return procedure.*